

STATE OF ARIZONA 9-1-1 PROGRAM

Arizona Department of Administration
Information Services Division



Pima County Deploys First Phase II Wireless System in Arizona

Congratulations to Pima County for the first deployment of Phase II Wireless Service in the State of Arizona. Phase II provides a variety of features which support wireless callers in the event of an emergency, while providing additional functionality in the PSAP (public safety answering point) to assist the call-takers in their response efforts.

On May 12, 2004 Pima County 9-1-1 requested Phase II services from the eight cellular carriers doing business in their area. Considerable efforts preceded this request. First, validation took place to ensure that their GIS file met certain standards. Following validation, the implementation of an enterprise mapping system; specifically, every PSAP has mapping capability at each position, and the maps are centrally updated.

Testing with the wireless carriers was extensive. Anita Velasco (Pima County's 9-1-1 Administrator) explains. "Four PSAPs were identified as primary PSAPs for wireless 9-1-1 calls. Each of the four was required to participate in the testing process for each carrier. Alltel was the first vendor to turn up Phase II on October 11, 2004. Test calls were placed from every tower/sector. Our call-takers would verify the class of service of WPH1 was received. They also verified the ALI tower address and sector were correctly displayed on the ALI screen, and the location of the tower plotted accurately on the map. The next step would be to rebid for Phase II data. The class of service would be checked to verify it had in fact changed to WPH2, and that we got a new plot on the map. We recorded the confidence factors for each Phase II plot. To get a sense of the accuracy of the Phase II data, we asked the tester to tell us exactly where they were located. For the most part, we found the confidence factors to be very conservative, and the actual plot was more accurate than the confidence factor led one to believe. The same process was repeated for each of the six carriers currently providing Phase II services."

Ms. Velasco went on to say, "most of the carriers currently providing Phase II are utilizing a handset solution. There is one vendor left to implement their Phase II solution, AT&T Wireless. This carrier is using a network solution, and we expect them to turn up services by May 12, 2005."

INSIDE THIS ISSUE:

Pima County Deploys First Phase II Wireless	Cover
Redundancy for AZ's 9-1-1 Network	2
Enhance 9-1-1 Act of 2004	3
"VoIP" Trunk Update	
Long-Distance Savings	4
Status of AZ's Wireless ALI Records	5
AZ's 9-1-1 GIS Standards	
GIS Can Be the Key to Success	6
Enhanced Wireless Status	7
Latitude/Longitude-Course 101	
Operational Resources Available	8
Upcoming Events	
Travels Around Arizona	9
RESOURCES	Back

Congratulations!

Continued on page 2

9-1-1 News

Pima County Deploys First Phase II System in Arizona

(Continued from cover page)

All of the initial routing for the 9-1-1 calls is done based on the tower and sector. While we have seen calls come into a PSAP with WPH2 class of service, we believe those calls were first answered by another PSAP and transferred. The re-bid process takes approximately 10 seconds. While the re-bid is taking place, the call taker and the caller can hear some momentary breaks in the transmission. This is due to the transmission of the data over the voice line.”

“Overall we have been very pleased with the services provided. Each carrier appeared prepared to go at their scheduled test time. Some carriers turned up Phase II tower by tower, while others waited until all testing was complete to activate the services. The testing can tie up a call-taker, particularly if the carrier is using more than one tester. Therefore, in Pima County we did not allow two carriers to test at the same time, which was not a problem for the carriers.”

The nine most terrifying words in the English language are, “I’m from the government and I’m here to help”.

Ronald Regan (1911-2004)

Redundancy For Arizona’s Qwest 9-1-1 Network

The State’s 9-1-1 Office is working with Qwest to provision a more robust 9-1-1 network for public safety agencies.

The State of Arizona’s 9-1-1 Program has provided funding to implement the Arizona Dual Tandem Project for the fiscal year 2005. This project will allow redundancy among the Qwest Selective Routers (S/R) in our State.

PSAPs in the Phoenix LATA (Local Access Transprot Area) are currently provisioned either from the Phoenix Main S/R or the Phoenix Southeast S/R. Tucson LATA PSAPs are provisioned out of the Tucson East S/R. Each S/R does not currently provide “backup” for another S/R.

This project will add a second S/R in Tucson LATA housed in the Tucson South central office. It will also reprovision existing PSAP E911 trunks to split service between two Qwest S/R’s within their respective LATAs thereby allowing them to “mirror” each other.

In preparation for this deployment, Qwest has been changing the selective transfer #'s (*11, *12 and *13) and the existing Intertandem Routing DN's to three digit *Star Codes. Qwest technicians visited each PSAP for which they have responsibility to initiate any programming changes. PSAPs within Qwest territory maintained by other providers, receive notification from Qwest to perform necessary site work. Most PSAPs will not experience interruptions in their operation.

Upon completion, it will add another measure of security and redundancy within the Qwest 9-1-1 network.

If you have any questions or concerns please contact Maria Hall at 602-771-4911 or email her at maria.hall@azdoa.gov



Enhance 9-1-1 Act of 2004 Signed into Law December 23, 2004

The Enhance 9-1-1 Act of 2004 (H.R. 5419) passed in the final moments of the 108th Congress on December 8, 2004 and was signed into law by President George W. Bush on December 23, 2004. He commented that the legislation “strengthens the ability of American’s to use the 9-1-1 telephone number to seek emergency assistance”.

This is a key measure for the nation’s 9-1-1 systems and the deployment of life-saving technology that helps the nation’s public safety answering points (PSAPs) determine the location of wireless callers dialing 9-1-1. As wireless phones have proliferated, the volume of wireless 9-1-1 calls has increased as well. Depending on the local area, 25 to 60 percent of all calls to 9-1-1 come from wireless phones, an annual total of nearly 140 million nationwide.



The Enhance 9-1-1 Act sets the stage for the nation’s 9-1-1 future. By signing this important legislation, the Administration has made E9-1-1 implementation and planning a priority for the nation’s safety and security. The establishment of a 9-1-1 Coordination Office within the Executive Branch is an important step to better equip public safety’s ability to respond to cries for help—from everywhere, at any time, with any device. In addition to reporting on the progress of implementations nationwide and making recommendations to Congress on E9-1-1 needs, the Office will also administer new federal cost-share grants to state and local E9-1-1 agencies to assist with E9-1-1 deployments and operations.



“VoIP” Trunk Update

9-1-1 calls made from Voice over Internet Protocol (VoIP) services in a residential environment are directed to specific 9-1-1 trunks bringing those calls into the 9-1-1 network for processing. Currently limited, or no, information about the caller’s location is received.

New trunks with a unique 10-digit number have been, or are in the process of being, installed at designated PSAPs within county jurisdictions throughout Arizona. About half of our counties now have trunking in place. We anticipate the completion near the end of April.

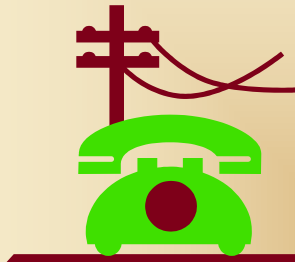
Initial notification of the new 10-digit number was made to database companies such as Intrado and TCS, as well as any VoIP providers we have been able to identify through contacts you have shared with this office. A partial list was provided to them on February third. Additional notification will be sent upon completion of the project.

Once in effect, the new number will bring VoIP 9-1-1 calls into a 24x7 emergency center, as well as provide statistical data to improve call handling as future enhancements are made.

For a complete list of these new numbers or any additional questions please contact Maria Hall.

Long-Distance Savings

Arizona 9-1-1 Takes Advantage of Low Long-Distance Rates



During 2004, the State of Arizona negotiated a very competitive long-distance rate with Qwest Communications. As a result, we were able to take advantage of a contract addendum which allowed the 9-1-1 community to see substantial savings. **Our new rate for domestic long-distance calls made from 9-1-1 lines is a low \$.04 per minute.** Previous rates varied from \$.15 per minute and higher. AT&T also billed “account handling” charges of \$15.95 per month even if the lines had no calling activity. With the Qwest contract those charges have been eliminated.

During November, 2004, 9-1-1 trunks (EM trunks) as well as some miscellaneous lines, such as remote diagnostic services, were converted from AT&T (for Interstate/Interlata calls) and Qwest Communications Standard (for Intralata long-distance calls) to the new Qwest offering. This conversion took place in all PSAPs within Qwest territory. The change involved programming at the central office level which did not interrupt the normal flow of business. It was conducted during the early hours of 2:00 AM and resulted in no down time for our PSAPs. Follow up calls were made to random PSAPs to assist in confirming the change by dialing a test number (1-700-555-4141) from that line. An automated response of “Qwest” identified the new long-distance carrier was in effect.

Non-Qwest locations were converted during the month of January. The primary focus for those areas was lines incurring long-distance charges, in contrast to lines not used for long-distance calling.

If fiscal year 2004 is typical, our long-distance costs will see an annual savings of approximately \$16,000.00.

In addition to savings, each 9-1-1 System Administrator will see a more user friendly invoice from Qwest for their regional long-distance billing. The invoice will identify all details of a call that will include the originating PSAP as well as the special use, if needed, such as “Remote Diagnostic” or “Wireless” to further identify billing responsibility.

If you have any questions regarding the Long-Distance Project please contact Maria Hall.

Status of Arizona's Wireless ALI Record

Two and a half years ago, the Arizona 9-1-1 Office embarked on a project to provision the state's PSAPs with Phase I and/or Phase II wireless service. When that project began, the State had no standards concerning the appearance of the wireless ALI Record. The 9-1-1 Office's Project Manager, Penelope Meyers, explains. "After the deployment of the second county, it became painfully evident that the data displaying on the call taker's ALI screen was of poor quality and lacked consistency. Much of the information was cryptic and in some instances missing. The solution was to develop Wireless ALI Record Standards that ensured that the information being delivered was clear and concise; thus aiding, not hindering, public safety response efforts."

With no national standards in place, the goal of developing regional standards was challenging. Considerable thought was given to the formatting and content of the records. With those decisions made, the next hurdle was to get the buy in of the wireless carriers and their database providers. Despite the obstacles, Arizona was able to finalize standards and get the needed support.



Unfortunately, by the time the standards had been finalized, four counties had already deployed enhanced wireless service without their records matching these standards. So **Arizona's 9-1-1 Office contracted Intrado to review 5,500 records and modify them according to the standards.** The 6-month project recently concluded. Penelope Meyers managed the project and reviewed the 5,500 records Intrado modified. This tedious and extremely time-consuming task ensured all wireless records, for AZ counties deployed to date, are compliant with Arizona's Wireless Standards. **"This initiative not only provides call takers with ALI information that supports their efforts, it also positions Arizona as a leader in this area."**

Arizona's 9-1-1 GIS Standards Are Complete

The State 9-1-1 GIS Standards have been created. A special thanks goes to **Dave Eaton** (GIS Manager, Maricopa Region 9-1-1), **Jerry Merlick** (President, Contact One), **Ben Butterfield** (GIS Analyst, Contact One) and others, for sharing their GIS expertise. These standards will be used to assess GIS data throughout the state for accuracy and completeness as it relates to 9-1-1. Please contact Adam Iten (adam.iten@azdoa.gov) should you have questions or would like a copy of the standards.

Email Addresses Changes

The State of AZ has changed their domain names. Below are the new email addresses for 9-1-1 Office personnel.

janie.armbruster@azdoa.gov

maria.hall@azdoa.gov

adam.iten@azdoa.gov

barbara.jaeger@azdoa.gov

penelope.meyers@azdoa.gov



GIS Can Be the Key to Success When Attempting to Locate

Our great state contains miles upon miles of hiking trails and uninhabited space. From the Grand Canyon to Tumacácori National Historical Park, each county offers unique outdoor adventures with thousands of acres to explore - and to get lost in. With this fact in mind, there is a good chance that AZ's 9-1-1 call-takers will receive a call for help from a disoriented hiker. So how do your PSAP personnel locate them?

The answer will likely involve GIS (Graphic Information System).



The latest craze is to trek through the wilderness with a GPS

receiver. Most hikers also carry a cell phone in case of emergency. Though your 9-1-1 system may not be equipped to receive wireless Phase II calls* (displaying the caller's location), a lost hiker with a cell phone and GPS (Global Positioning System) receiver may still call 9-1-1 and provide their location information. It now becomes the PSAP's responsibility to locate them.

If the hiker has a GPS receiver, they should be able to provide their XY coordinates. The XY coordinates are two sets of numbers, which consist of a longitude (X) and latitude (Y). These numbers appear in many different formats, however, the two main formats one should be aware of are Decimal Degrees (DD) and Degrees Minutes Seconds (DMS). The differences between these formats are shown below

Decimal Degrees (DD)

Used in wireless ALI

X: -112.4051664

Y: 33.63564896

Degrees, Minutes, Seconds (DMS)

Used in many GPS receivers

X: 112° 24' 18" W

Y: 33° 38' 08" N

Above coordinates corrected as of 04/19/05

The call-taker will need a GIS map to plot the location of these coordinates. If the PSAP is equipped with an electronic map displayed on a screen, there's the option to enter in a caller's coordinates, which will in turn display their location. If the PSAP does not have a map as a resource, a call to the local GIS agency might prove fruitful. In every case, **PSAP personnel should know what to do with the caller's coordinates BEFORE they call. It might just save a life.**

* Pima County is currently the only 9-1-1 System receiving Phase II calls.

Please contact Adam Iten, State 9-1-1 GIS Coordinator, adam.iten@azdoa.gov with any questions/comments regarding this article.

Enhanced Wireless Status

City of Page

October 15, 2004 saw the completion of a Phase I project for the Page 9-1-1 system. Page now joins four other Arizona jurisdictions in providing enhanced wireless service to their constituents. The project included 3 carriers, one of which had never provisioned Phase I before. Despite the learning curve, the project was successful and completed on time.

Charlene Gustaveson (Page PD) and Brenda Russell (Glen Canyon National Park Service) represented their agencies in the project. Penelope Meyers, AZ 9-1-1 Office Project Manager, commented on the project. "The enthusiasm that Charlene and Brenda showed for the project was evident. They stayed focused on the tasks and got things done in a quick second. I look forward to working with them again. And that may not be too far off, as I'm hearing rumors that they're taking steps to get ready for Phase II."



Maricopa County

Maricopa will be the second county in the state to provide their citizens with the benefits of Phase II wireless service.



Unlike Pima County, Maricopa is taking a different approach to provisioning service. Rather than using the Qwest Communications selective router to manage the wireless traffic, they have purchased their own selective router and will assume that responsibility themselves.

Carriers will begin their test and turn-ups in the not too distant future.

City of Winslow

The City of Winslow is the newest 9-1-1 jurisdiction to throw their hat in the ring for enhanced wireless service. On January 19th a kick-off meeting was held. In attendance were representatives from the city's police and fire agencies. Mary Sanchez (Page PD) has been named to serve as the Wireless Administrator for the 9-1-1 system.

The project is in the early stages, but if all proceeds as anticipated Winslow should be turned up with Phase I by the end of July.



Latitude (Y)
Runs East and West on a map &
Measures North and South

45° N

0°

45° S

Latitude / Longitude
Course 101

90° W 0° 90° E

--	--	--	--

Longitude (X)
Runs North and South on a map &
Measures East and West

9-1-1 News

Operational Resources Available to the PSAP

The National Emergency Number Association (NENA) works to provide information to the PSAPs through the development of Operational Standards and Operational Information Documents. Take some time to review this information so that you too can be informed and provide additional assistance to your leadership staff.

Operations Standards/Documents currently available on the NENA website:

51-001 NENA Operations Committee Organization Standards and Model Recommendation Process.

52-001 TTY Training Operation Standard

52-002 Managers' Guide to the ADA: Title II, Direct Access Operational Standard

54-001 Communications Center/PSAP Daily Personnel Operations Model Recommendations

56-001 NENA Guidelines for Minimum Response to Wireless 9-1-1 calls.

56-002 NENA Standard for NORAD Notification: Airborne Events

56-003 NENA Minimum Standards for Emergency Telephone Notification Systems

58-001 NENA IP Capable PSAP Features and Capabilities Standard

PSAP Guide to GIS

Operational Information Documents:

52-501 TTY Phone Pal Program (PPP) Operational Information Document (OID)

56-501 Silent or Hang-up Calls for Service OID

56-502 NENA Milepost OID

57-501 Wireless Phase I & II Features and Functions OID

57-502 Wireless Phase I/II Planning and Implementation Checklist & Modules OID

58-501 IP PSAP 9-1-1 System Features & Capabilities OID

Be informed, stay informed. Additional information can be obtained from both NENA through their website at www.nena.org or through the Association of Public Safety Communications Officials International at www.apcointl.org.

A Little Humor

A friend of mine and his wife recently hired a sitter to take care of their two young children aged 4 and 5 while they went out to dinner. Upon returning they asked the 5 year old how the evening with the sitter had gone. She told her parents that her 4 year old brother was so mean to her she would have called 9-1-1 but couldn't remember the number.



The following quotes were taken from actual medical records as dictated by physicians

Discharge status: Alive but without permission.

The patient will need disposition, and therefore we will get Dr. Blank to dispose of him.

The patient refused an autopsy. The patient has no past history of suicides.



AZ's APCO/NENA

Chapter Meetings

Chapter meetings are held **Quarterly**. For more information on meetings, events and general information, you can access their web site at: www.az-apco-nena.org

Upcoming Events

National Conferences

NENA 2005—Long Beach, CA June 25-30

The National Emergency Number Association will hold their annual conference in Long Beach, CA. For information contact NENA at 1-800-332-3911 or at: www.nena.org

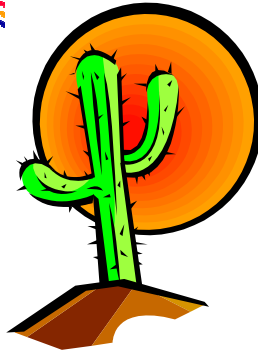
APCO 2005—Denver, CO August 21-25

If the Association of Public-Safety Communications Officials addresses more of your interests, their national conference is also coming up. For information see APCO's web site: www.apco911.org

9-1-1 News

Travels Around Arizona

Cochise County continues to make progress on completing their Enhanced wireline 9-1-1 project. An initial simulation was run recently and correction work is underway to ensure the 95% accuracy requirement is met. The City of Bisbee and the Town of Tombstone are included in this final phase.



By Barbara Jaeger

Yavapai County recently ran a simulation on the unincorporated areas located in the southern portion of the county. Development Services is working with Qwest to make corrections that will bring the error rate down.

Gila County continues to work on their addressing program. The northern portion of the county is now completed and Spatial Data Research has moved to the southern portion. To validate accuracy, a simulation will be run on the northern portion as soon as all customer information updates are completed by the telephone company.

Graham County is planning to move their PSAP to a new facility. An upgrade of their operating system will be done along with the move.

Greenlee County officials are working on the completion of their Enhanced 9-1-1 Service Plan. New leadership within the Sheriff's Office and Police Department has spurred new interest in seeing Enhanced 9-1-1 delivered to the citizens of the county.

Prescott Police Department and Prescott Regional Fire continue to work on their consolidation. The move to their new facility and the upgrade of their operating system is targeted for this summer.

The City of Williams' addressing program is close to completion. Delivery of addresses and development of old address to new address information is underway.

The State 9-1-1 Office went international in December participating in a conference with the State of Sonora, Mexico's Emergency Response Agency (the equivalent of 9-1-1). The meeting was initiated by The Department of Homeland Security and focused on sharing information to further the 9-1-1 cause on both sides of the border. The State of Sonora has made great strides in providing emergency dispatch services to their citizens. Interesting information was derived from the meeting, including the fact that although there are only 26,000 residents in Nogales, AZ, there are more than 500,000 in Nogales, Sonora. Unlike the USA, Mexico uses 0-6-6 to report emergencies. When 9-1-1 is dialed in Sonora, their two wireless providers convert 9-1-1 to 0-6-6 so the call can be delivered to an emergency response center. The State's 9-1-1 Office is looking at the feasibility of providing the same service in reverse.



FLASH FROM THE PAST—1992

Resources

Barbara Jaeger
9-1-1 Administrator
at 602.542.0911
Fax: 602.542.2008
1.866.456.3911 (toll free within AZ)
barbara.jaeger@azdoa.gov

Maria Hall
9-1-1 Project Manager
at 602.771.4911
Fax: 602.542.2008
maria.hall@azdoa.gov

Adam Iten
9-1-1 GIS Coordinator
at 602.771-3911
Fax: 602.542.2008
adam.iten@azdoa.gov

Janie Armbruster
9-1-1 Program Specialist
at 602.771.2911
Fax: 602.542.2008
janie.armbruster@azdoa.gov

Penelope Meyers
9-1-1 Project Manager
at 602.771.0911
Fax: 602.542.2008
penelope.meyers@azdoa.gov

STATE OF ARIZONA 9-1-1
website: www.911.state.az.us

APCO
Association of Public-Safety Communication Officials
website: www.apco911.org

NENA
National Emergency Number Association
website: www.nena.org



State of Arizona 9-1-1 Office
100 N. 15th Ave., Suite 400
Phoenix, AZ 85007
Mail Code 382